

Supporting Young Children's Vocabulary Growth: The Challenges, the Benefits, and Evidence-Based Strategies

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Abstract The complexity of words makes vocabulary development a multi-faceted process that presents challenges to early childhood educators, offers benefits to young learners, and must be supported through evidence-based strategies. All students, regardless of socio-economic status or background, need to make significant gains in receptive and expressive vocabulary at home and at school each year in order to support their growth in literacy. Students from low socioeconomic backgrounds and those students who speak English as a second language are particularly at risk of failing to make proficient vocabulary gains. The most effective way for early childhood educators to enhance the vocabulary development of all students is to implement evidence-based strategies for teaching vocabulary. A key finding in the research is that young children need to be actively engaged in vocabulary development if they are to remember new words and begin to grasp the multiple, nuanced meanings of words. Other effective vocabulary instruction practices include meaningful repetition; combining the enactive, iconic, and symbolic modes; and reading aloud in a dialogic style. In light of the trend in the research data that links the child's vocabulary level to gains in reading comprehension, early childhood educators have a special obligation to teach vocabulary more effectively.

Keywords Vocabulary · Vocabulary instruction · Receptive vocabulary · Expressive vocabulary · Early literacy · Research-based strategies · Diverse learners

Ramon's family moved to the Washington DC area from Guatemala when he was a baby so that his father could work in construction. As a toddler, Ramon grew up hearing both Spanish and English spoken and frequently combined the two languages in conversation. For example, he would say "adiosbye-bye" and very early on, Ramon recognized that he should use Spanish to communicate with his grandmother and English with most of his playmates at child care.

Taylor and Tyler are 3-year-old twin brothers. They live in a wealthy neighborhood and attend preschool at the new center inside their gated community. When a family friend asks them how they like school, the boys reply in unison, "Poopy!" Stunned by their response, the adult tries again and asks, "What about your teacher? She's nice, isn't she?" Again, the twins say in unison, "Poopy!" The twins' parents are concerned about their language development because they mainly communicate with one another and, when they do try to communicate with others, one- and two-word utterances still dominate their verbal responses.

Grace's family is from Kenya; her experience with oral language in Kiswahili and her tribal language are extensive, as is her experience with listening to and sharing stories. When Grace arrives in the United States, she is 7 years old and has had 1 year of being taught English at school. Because her parents have come to a college town in a rural area, there are no services for English language learners and virtually no one outside their immediate family speaks their first language. Grace is mystified and frustrated by much of what she is told to do as part of the

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first grade curriculum. She has started to protest that she does not want to go to school and, once there, she has stopped trying to communicate with the teacher or other children. When her parents gently inquire about this, Grace replies, “I hate English!”

When educators read true accounts of young children’s language behavior such as these, it may be difficult to avoid thoughts of deficits, problems, and ways to address them. Yet each of these children has language strengths and areas for growth and each of them needs a teacher who understands vocabulary development and ways to support it.

In Ramon’s case, for example, some teachers are still operating on the misconception that the child’s first language somehow interferes with second language development when there is extensive research to repudiate that antiquated view (Tabors 2008). Current research confirms that children use mastery of their first language, or L1, as a “scaffold” for learning English; strength in L1 is an asset (Cárdenas-Hagan et al. 2007).

In the case of the 3-year-old twins, some misguided educators would assume that their language would develop effortlessly because they are economically advantaged when the research indicates that it is the *language* environment both at home and at school—particularly before third grade—that is the major influence (Biemiller 2003; Wasik et al. 2006). To illustrate, a study involving several hundred parents who documented their 2-year-olds’ vocabularies, the range was enormous. Parents reported that their toddlers knew between 50 and 550 words (Fenson et al. 1994).

For Grace, the young girl from Kenya, some educators would expect that she will “pick up” English rapidly without much effort because she is immersed in it. However, Grace’s peers already have acquired many years of English study and it may take her as long as 7 years to become sufficiently fluent in English to work with academic content (Hakuta et al. 2000). The research indicates that children from special populations need appropriate opportunities to learn new words and intensive instruction in vocabulary if they are expected to succeed (Wasik et al. 2006).

As these examples illustrate, the preservice/in-service training of teachers on vocabulary instruction frequently has been inadequate or is now outdated. Vocabulary instruction has been overshadowed by other aspects of reading/language arts, particularly over the past 15 years (Pearson et al. 2007). The purpose of this article is to provide early childhood educators with the latest, research-based evidence on effective ways to build the vocabulary of young children. The article begins with definitions of receptive and expressive vocabulary. Next, it provides research evidence on the challenges that children confront as they develop a concept of a word. Then it discusses the benefits that accrue when vocabulary is built. Finally, it

provides practical, research-based strategies that early childhood educators can use to support vocabulary growth in all learners and offers an agenda for the future of research-based vocabulary instruction.

Defining Vocabulary

Receptive language relies on interpreting language that is heard or read; expressive language refers to producing language through speech or writing. The language development of young children is unique in that it is estimated that their receptive vocabulary often is four times greater than their expressive vocabulary. A few thousand words account for 90 percent of the spoken vocabulary anyone uses or hears on a regular basis (Hayes and Ahrens 1988). A highly educated adult has a listening/speaking vocabulary of about 10,000 words but likely knows nearly 10 times as many words in reading and writing, or about 100,000 words (Byrnes and Wasik 2009). Most teachers are familiar with a listening, reading, speaking, and writing vocabulary. What may be less familiar—and particularly helpful—is the three-tier conceptualization of vocabulary (Beck et al. 2005).

Beck and her colleagues have conceptualized vocabulary as three different levels, or tiers. Tier 1 words are common labels that are widely understood or are less common but can be quickly comprehended through an illustration. Words that fit into Tier 1 include labels such as *door*, *table*, *computer*, and *hippopotamus* because these words are either already known or can be pictured, thus vocabulary instructional time is minimal. Tier 2 words have high utility for mature language users’ listening, speaking, reading, and writing (Beck et al. 2005). Words in the second tier often focus on more abstract or complex ideas, words such as “courage,” “confused,” or “intentional.” Vocabulary researchers agree that Tier 2 words should be the main focus when instructional time is limited (Nagy and Scott 2000; Stahl and Stahl 2004). Tier 3 words are words that are specific to particular subject areas and that are not applicable outside of those areas. These include vocabulary words found in math, science and social studies. Examples of these words include *fulcrum*, *obtuse*, *adobe*, and *chlorophyll*. While these words will require some vocabulary instructional time within the content area, they are not worthy of extensive teaching time because they are not high-utility (Beck et al. 2005).

Challenges in Acquiring the Concept of a Word

There is strong evidence that the home and school environments exert a powerful influence on both the size and

the depth of children's vocabularies (Biemiller 2003; Hart and Risley 1995). What does it mean to know a word? Many of children's most charming language errors have to do with semantics, or word meaning. They sometimes turn to words they already know—for example, “vanilla” paper for “manilla” paper or “chickenpops” for “chickenpox.” They may even invent words that make more sense than the one they actually heard, such as a child who referred to a “pasture” as a “grassture” or the child who requested “cold slop” for “cole slaw” at a family reunion/picnic. Even when children apparently know a word, their understandings can be rather superficial. For example, multiple meaning words are often very challenging for young children. A young child may be very aware that they have nails on both their fingers and toes. However, when they hear an adult mention the need to buy a box of nails, or hear someone say, “That singer was great—she really nailed it!” they may be puzzled by these uses of the word.

“Words may seem like simple entities, but they are not. Their surface simplicity belies a deeper complexity. For example, they connect with experience and knowledge, and their meanings vary depending on the linguistic contexts in which they can be found, including in a variety of literal and figurative contexts” (Pearson et al. 2007, p. 286). To really know a word's meaning is to know what a word represents and to begin to understand the network of concepts that goes with it (Neuman and Dwyer 2009).

Benefits of Vocabulary Instruction

Researchers have long acknowledged a relationship between vocabulary knowledge and reading comprehension (Beck et al. 1982; Coyne et al. 2004a; Cunningham and Stanovich 1997; Hiebert and Kamil 2005; Stahl and Nagy 2006). In 41 studies of the impact of vocabulary instruction on comprehension, the average effect size was .91—which would theoretically raise the comprehension of an average child from the 50th percentile to the 83th percentile (Stahl and Fairbanks 1986); subsequent studies have concluded that vocabulary knowledge predicts listening and reading comprehension performance with positive correlations ranging from .6 to .8 (Pearson et al. 2007). This relationship has lasting educational implications for students with both high and low vocabulary levels. Students who begin school with more vocabulary knowledge tend to comprehend the texts they read and, as their reading comprehension increases, their vocabulary knowledge expands accordingly. Conversely, students who begin school with limited vocabulary knowledge may struggle with reading comprehension and that struggle will limit their vocabulary growth. Even in the very young years of a child's life, vocabulary instruction can influence that child's reading ability across

the various subjects and throughout their school careers (Biemiller 2004; Hargrave and Senechal 2000; Juel et al. 2003; Stahl and Stahl 2004). The implications extend beyond schooling, as well. A person's vocabulary level is a means of opening or closing access to information; facility with words—both spoken and written—also affects others' opinions of how intelligent or educated a person is (Beck et al. 2002; Stahl and Nagy 2006).

The issue then becomes what to do to ameliorate the vocabulary differences of children as they enter school or during their preschool years. The first and most important step is to take the well-documented and accepted notion of the pivotal role that vocabulary plays in becoming a proficient reader and develop adequate vocabularies with the goal of supporting all children to become proficient readers. Research suggests that there is the possibility of reducing the problem of low vocabulary knowledge and offers a wide array of research-based instructional techniques that can support all students in developing receptive and expressive vocabulary (Christ and Wang 2010).

Despite the obvious importance of vocabulary for reading achievement, there is little evidence of intentional vocabulary instruction in the early grades (Neuman and Dwyer 2009). Unfortunately, there is often little emphasis on vocabulary development in the school curricula (Beck et al. 2005). Historically, wide reading has been viewed as the main way for children to increase their vocabularies (Stahl and Nagy 2006). However, for students who struggle with reading and for very young students, wide reading is not a solution. Another widely accepted way to expand vocabulary is to “learn it in context” but this can be time consuming and inefficient (Beck et al. 2002; Juel et al. 2003). Possibly the most common method of vocabulary instruction in schools is to focus on words in the texts students read. The problem with this method is that the words in commercial anthologies for young readers are often words that students already know—Tier 1 words—that tend to reinforce, rather than build, vocabulary (Blachowicz and Fisher 2000). For all of these reasons, a different approach to vocabulary instruction in the early childhood years is warranted.

Research-Based Strategies to Support Vocabulary Growth

Given that, in order for children to become proficient readers, they need to learn five to six new words per day, 38 words per week, 2000 new words a year, and 10,000 by age 6, vocabulary instruction is a must (Byrnes and Wasik 2009). There is little chance of closing the gaps between students who have adequate and limited vocabulary knowledge until there is success in developing and

implementing a research-based vocabulary development program (Biemiller 2004; Marulis and Neuman 2010).

Research suggests that students should be provided with rich vocabulary instruction which includes such things as questioning, clarifying, repeating, pointing to words, supplying examples, and providing “child friendly” definitions in words that a young child can understand. There is agreement by many researchers that, in order for students to fully comprehend a word, the instructional encounters provided by educators must be rich, interactive, and multifaceted (Beck et al. 2005; Brett et al. 1996; Coyne et al. 2004b; Penno et al. 2002). Researchers advocate active involvement on the part of the learner. Several studies have shown that when students are active participants in vocabulary instruction, more vocabulary words are learned (Hargrave and Senechal 2000; Penno et al. 2002; Senechal et al. 1995).

Provide for Meaningful Repetition and Retrieval

Studies estimate that of 100 unfamiliar words met in reading, between 5 and 15 of them will be learned (Beck et al. 2002). For words that are not quickly understood through pictures or demonstration, children need several repetitions in different contexts in order to gradually build their understanding of a word (Baumann et al. 2003; Stahl 2003). Current research in neuroscience shows that it is not just repetition, but the process of retrieving word meaning repeatedly that strengthens the neural pathways between form and meaning (Nation et al. 2007). Also, it is not a “cramming” type of repetition but repetition with a period of rest in between (e.g., overnight) that appears to be most effective (Jensen 2006). Furthermore, encountering a word in various, meaningful contexts is far more likely to result in remembering the word and achieving a more nuanced understanding of the word than memorizing lists of vocabulary (Pearson et al. 2007).

Technology can be a resource when building up the necessary number of repetitions and adapting the curriculum to individual needs. Audiobooks enable students with visual or physical disabilities to experience literature by listening (Holum and Gahala 2001). For emergent or beginning readers, audiobooks enable children to work with texts that are above their actual reading levels. In addition, ELLS can listen and follow along in the printed text, thereby building fluency and expanding vocabulary. To maximize the effectiveness of audiobooks as a teaching tool, it is important for students to be able to control the rate of narration (Bergman 2005). For children with attention deficits, recorded books typically include other audible “extras” that promote active listening, such as an audible signal to turn the page, music and sound effects, and interviews with authors (Mediatore 2003).

Combine the Enactive, Iconic, and Symbolic Modes

In order to differentiate in a diverse classroom, teachers need to combine the enactive, iconic, and symbolic modes to maximize comprehension (Bruner 2004). The enactive mode engages children in actually doing something in order to connect it with language (e.g., reciting a fingerplay and performing the accompanying motions). The iconic mode uses concrete objects (e.g., fruit or plastic replicas of fruit) or pictorial representations of objects (e.g., photographs, clip art) to support vocabulary growth and make the language that is heard more understandable. Gradually, children can begin to connect the symbolic mode (e.g., letters, words, numbers, and other abstract symbols) with the enactive and iconic modes.

A commercial program for 4- and 5-year-olds that achieves this is called Child Talk. The program capitalizes on the value of repetition by focusing on rereading and retelling. It consists of a series of prop boxes and a set of procedures that the teacher is trained to use. The prop boxes contain three to five storybooks, concrete objects that represent the vocabulary words the children will learn, a little book that contains pictures of the objects in the prop boxes, and a “Big Book” version of the same book (Wasik et al. 2000).

A strategy for children in the primary grades that links the iconic and symbolic modes is “talking” drawings (McConnell 1993; Paquette et al. 2007). It begins by sharing numerous examples of diagrams that are labeled with words. Science books, social studies books, information books, and <http://www.enchantedlearning.com> are good sources for diagrams. Next, the teacher selects a short text on a topic of relevance that can be read aloud to the children. Before the book or passage is shared, children work with a partner to create a labeled drawing that represents their prior knowledge of the topic. Then the text is shared and, after children heard the material, they return to their drawings and redraw or revise, adding all of the new terminology and features they now know about. When this was done with a passage on the octopus, for example, children’s prelearning drawings were like cartoons. After hearing about the octopus, however, their drawings were much more detailed (e.g., showed the suction cup surfaces of the tentacles) and their written labels included the new vocabulary (Paquette et al. 2007). By evaluating the “before” and “after” drawings, the teacher quickly can identify advances in students’ reading and listening comprehension for a particular topic.

Build Vocabulary by Reading Aloud in a Dialogic Style

Although it has been argued that children under the age of 6 months are not ready to attend to a story being read to

them (Murkoff et al. 2003), research indicates that when infants are read to by parents and caregivers important literacy skills such as book awareness, print awareness, vocabulary development, fluency, and comprehension are developing (Armbruster et al. 2003; Manning 2005). One important way of building vocabulary in a meaningful context is by reading aloud and discussing picture books. Justice et al. (2005) found that kindergartners who had been identified as at risk of academic difficulty were able to learn vocabulary effectively while sharing books. Moreover, the most effective way of accelerating vocabulary was for the adult to elaborate on the words in the story. In fact, the children with the lowest vocabulary made the greatest gains when the adult talked about the new words the children encountered in the book.

Children's active participation is a key to supporting literacy growth (McVicker 2007). Repeated readings of children's books, accompanied by toys and literacy props, are ways to enrich and extend young children's understandings of picture books (Saracho and Spodek 2006; Welsch 2008). Literacy related play is a key element in supporting vocabulary learning. For example, after watching an episode of the television program *Martha Speaks* (2010) about shelter dogs and reading books about dogs in need of care—*Buddy Unchained* (Bix 2006), “*Let's Get a Pup!*” said Kate (Graham 2001) and *The Stray Dog* (Simont 2001) children were supplied with a stuffed toy dog, collar, leash, bed/basket, plastic bowl, dog toy, dog brush, and a cardboard box “dog house” so that they could dramatize various scenes from these books, retell the story, or invent stories of their own. Activities such as these focused on picture books build a bridge between play and language and provide varied opportunities for children to demonstrate their learning. There have been similar findings for learning scientific concepts and vocabulary through repeated read-alouds and related activities (Bodrova and Leong 2006).

Additional Support for Children from Low-Income Backgrounds

Throughout reading research many references are made to the issue of limited vocabulary knowledge of children from low-income backgrounds. In the *Handbook of Reading Research* (1991), there is discussion that students with high and low achievement show huge differences in vocabulary and that some differences are associated with socioeconomic level. One research team estimated that, in general, students from low socioeconomic backgrounds know about 6,000 fewer words than their middle-class peers do at the start of schooling (Juel et al. 2003). Children raised in poverty tend to score, on average, one standard deviation below the mean on measures of vocabulary, metalinguistic

skills, narrative skills, and sentence complexity in comparison to peers from higher socioeconomic households (Restrepo et al. 2006).

It is important to consider what is causing the differences in vocabulary levels between children of lower and higher socioeconomic households. Being able to delineate the causes for the vocabulary level differences will help to determine how to help ameliorate the differences. Perhaps the most well-known and most cited study discussing the causes of differing vocabulary levels in children was conducted by Hart and Risley (1995). The study was a longitudinal study of 42 American families to determine the amount of talk and interaction experienced by children within families with differing socioeconomic levels and in families of different races. The observation transcriptions were used to determine differences in amount of talk to and with each child, quality of interactions and type of talk observed. This longitudinal study produced results that have been widely cited by researchers in the field of vocabulary research. Hart and Risley (1995) found that there were many differences in the everyday lives of the children that were observed. It was concluded that a child in a family from high socioeconomic status consistently received three times more experience with language and general interaction than did a child from a family on welfare. They estimated that, by age four, the average child from a family on welfare had 13 million fewer words of language experience than did a child in a working class family. The quality of speech heard in the home of families on public assistance was also less than that of working-class and high socioeconomic households.

Qi et al. (2006) suggest similar reasons for the lower vocabulary ability of children from lower socioeconomic household as those that were proposed by Hart and Risley (1995). Children from lower socioeconomic households have a greater occurrence of mothers with less education and are more likely to be from single parent homes. These factors, together with low socioeconomic status, pose many challenges. It is noted that children raised in poverty have different opportunities for word learning, fewer resources in their homes, and often have parents focused on daily survival concerns that limit interaction with their children.

The educational implications of being raised in a poverty home can be staggering. Hart and Risley (1995) found that the socioeconomic status of a child's family could account for 42% of the variance in the child's rate of vocabulary growth, 40% of the variance in their vocabulary use and 29% of the variance in their IQ test scores when they were 3 years old. Overall, Hart and Risley (1995) concluded that vocabulary growth, at age three, was strongly correlated with family socioeconomic status ($r = .65$). Taken together, the findings of Hart and Risley (1995) show that many children are at high risk for having

low vocabulary skills. In addition, further studies on the same subjects showed the vocabulary of the children at age three was equally predictive of measures of language skill at age nine or ten. The longitudinal research of Hart and Risley (1995) provides insight into both what contributes to the development of the vocabulary levels in children and the long lasting effects of these vocabulary levels, once formed. Perhaps more alarming is that according to Stahl and Stahl (2004), the vocabulary gap between children of different socioeconomic status is ever increasing, thus placing them at a higher risk for reading failure (Sharif et al. 2003).

Supporting Vocabulary Growth in Young English Language Learners

Since the 1990–1991 school year, the English language learner population has grown approximately 105%, where the general school population has grown by only 12% (Hiebert and Kamil 2005). In addition, data suggest there is approximately a 25 point difference in reading between fourth-, eighth-, and tenth-grade students who routinely speak a language other than English at home and students who speak only English at home (Hiebert and Kamil 2005). Therefore, strategies for developing vocabulary in English are essential (August et al. 2005; Tabors and Snow 2001).

Effective instruction draws on the sum of ELLs' experiences in listening, speaking, reading, and writing as a whole for their literacy growth (Vandergrift 2006). The support of teachers, volunteers, and peers with proficiency in both languages helps children in making connections between languages and mastering content across the curriculum (Parker and Pardini 2006). Poor vocabulary is a serious issue for English-language learners. Although skilled readers can tolerate a small proportion of unknown words in a text without disruption of comprehension, comprehension is disrupted if the proportion of unknown words is too high (Hiebert and Kamil 2005). Collins (2005) found that storybook reading is an effective medium for teaching English Language Learners and that when new vocabulary words were explained to preschoolers who were English Language Learners, it resulted in significant gains in new vocabulary acquisition.

Conclusion: An Agenda for Reform in Vocabulary Instruction

It is important for early childhood educators to understand the two types of vocabulary knowledge that students possess. In addition to understanding the differences between expressive and receptive vocabulary, the role of Tier 2 vocabulary in students' listening and future reading

comprehension should not be underestimated. Words are complex entities that require students often to know multiple meanings and to select the appropriate definition in a particular situation. While acquiring word knowledge is often difficult, it is essential for proficient reading comprehension.

Given the current research on differences in the vocabulary levels of students from varying socioeconomic levels and the critical role that vocabulary knowledge plays in reading comprehension, it is essential that early childhood educators make a concerted effort to build young children's storehouse of words. Vocabulary growth is a key to access to literacy, particularly those from low-income backgrounds and for English Language Learners because these populations are at high risk for underdeveloped vocabulary skills. Consider Ramon who arrived from Guatemala and Grace from Kenya in the opening scenarios; if their educational experiences include the use of L1 to help build their English vocabulary then they have a greater chance of achieving proficiency in both languages. High-quality vocabulary instruction and support for the student's L1 will not only assist with English vocabulary development but also will add to the overall positive experience of schooling.

A literacy curriculum that is grounded in the research is not only for special populations, however. Vocabulary development can have a positive effect on the literacy growth of all students, such as the twins Taylor and Tyler from an economically privileged background who introduced this article. They could benefit immensely from quality vocabulary instruction to raise their receptive and expressive vocabulary skills. Utilizing dialogic reading, active involvement, and meaningful repetition of words should be a part of every classroom's vocabulary routine to ensure that all students make adequate vocabulary gains.

As this review has highlighted, research-based strategies offer the greatest promise for ameliorating the vocabulary difficulties that often lead to problems with listening comprehension, reading comprehension, writing problems, and long-term poor academic achievement. Vocabulary is an area in which we can no longer afford to rely on the so-called "tried and true" methods; they certainly have been tried but have not been true in terms of supporting diverse learners.

The deficiencies in current methods of vocabulary instruction during the early years must be addressed. Schwanenflugel et al. (2005) provide an agenda for reform in their review that includes:

- Provide more individual conversations between students and teachers; research suggests that they occur infrequently in most preschool settings, yet the amount of talk between children and adults predicts oral

language development (Dickinson 2002; Dunn et al. 1994; Weizman and Snow 2001).

- Follow the child's lead in conversational topics rather than focusing only on instructional topics; this makes adult-child interaction more meaningful and cognitively challenging (Soundy and Stout 2002).
- Invest the bulk of vocabulary instruction time in Tier 2 words—those that represent complex concepts and are in wide use in spoken and written language (Beck and McKeown 2007). Emphasize word meaning (Biemiller and Boote 2006).
- Introduce new words that are important to an understanding of picture books before reading the book aloud; use synonyms or simplified definitions, and concrete examples (Coyne et al. 2007).
- Target vocabulary in multiple ways to make significant gains in word knowledge rather than straight-through reading (Brabham and Lynch-Brown 2002).

As this research review has documented, high-quality vocabulary instruction is essential for all students but it is even more so for students who confront a wide variety of linguistic challenges (Hemphill and Tivnan 2008). Early childhood educators are charged with the responsibility of becoming familiar with the challenges that students from diverse backgrounds face in terms of improving vocabulary development and making every effort to ensure that all students make adequate vocabulary gains through the use of research-based instruction. The goal of vocabulary proficiency for all students is not only attainable but essential. When vocabulary is systematically built it enhances young children's oral and written communication skills, supports growth in reading, and ultimately increases the educational opportunities available to them throughout life.

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